UNITED STATES PATENT AND TRADEMARK OFFICE

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10/732,809	12/11/2003	Johannes Heinecke	324-163	5874

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/732,809	HEINECKE, JOHANNES
	Examiner	Art Unit
	PARAS SHAH	2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _22 October 2008_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-11_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-4,6-9 and 11_ is/are rejected.

7)☒ Claim(s) _5 and 10_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This communication is in response to applicant's arguments and amendments filed on 10/22/2008. Claims 1-9 are currently pending in the application, with claims 10 and 11 being newly added. The Applicants' amendment and remarks have been carefully considered, and are not persuasive. Accordingly, this office action has been made FINAL.

2.   All previous objections and rejections directed to the Applicant's disclosure and claims not discussed in this Office Action have been withdrawn by the Examiner.

Response to Arguments

3.   Applicant's arguments see page 8-12 of applicant's remarks, filed 10/22/2008, with respect to claims 1-10 have been fully considered but they are not persuasive.

       Regarding the 112, 2nd paragraph rejection of claim 9, the Examiner traverses the Applicant's assertions. The rejections are maintained since it is still unclear as to what the applicant is seeking to encompass by the limitation of "storage medium". Further, there is no guidance in the Specification as to what such medium or devices are. Further, in response to the 112 1st paragraph rejections, the Examiner traverses the assertion that the cited paragraph shows the Applicant had possession of the invention. The Specification only describes the use of a computer and associated software. There is no evidence or support provided for the storage medium or the computer readable storage device. Hence, the rejection is maintained.

As to claims 1-4 and 6-9, the Applicant argue that Van den Akker only analyzes one character string per extracted word, while the claimed invention analyzes plural character strings for an extracted word. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "plural character strings") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The "all character strings" as stated in the claimed limitations does not entail a plurality is required. Further, the Applicant argues that Van den Akker does not base the score of the character string based on the position of the first character string. The Examiner disagrees with this assertion. Van den Akker assigns a score to each extracted word portion based on the input text, where the word portion is based on "suffix type" extracted (position of portion in word=suffix), as in col. 9, lines 21-22. Further, a score for each word portion is determined based on frequency (see col.9, 35-41, probability value for each word portion). Further, the Applicant argues that Van den Akker does not disclose decreasing a score by a respective second coefficient that is associated with the second character string. The Examiner respectfully disagrees with this assertion by pointing to Figure 6 and col. 13, lines 62-64, negative values are assigned to certain word portions not appearing in the language. Thus, the probability of van den Akker teaches the decrease in score, where the total score for the specific language will be decreased as a result of the cumulative sum. The negative probability is defined to show that the word portion

rarely or does not exist in the language (probability decreases). The Applicant also

assert that the secondary reference of de Campos fails to teach the second coefficient

associated with the second character string in dependence on a predetermined

language. Further the Applicant asserts that in claims 1 and 8, the score is decreased

for the second character string for one predetermined language. As to the latter

limitation, the Examiner respectfully disagrees since the claims only recites that the

score associated with "each determined language" and not "one predetermined

language", which are different in scope. The latter limitation increases scores to one

language whereas the former a score is increased or decreases for each language that

is being compared to. Further, de Campos does teach the limitation of raising a second

coefficient when probability of finding the string decreases. This is seen in col. 19, line

67-col. 20, lines 4, where the increase in coefficient is described as not finding such

matches in few languages (less known as to widely known). Hence, the rejections with

regards to the independent claims are maintained.

Further, all claims except claims containing allowable subject matter (claims 5

and 10) dependent upon the rejected base claim are rejected for similar reasons as

noted above.

Response to Arguments

4.   Applicant's arguments see page 8-12 of applicant's amendments, filed

10/22/2008, with respect to claims 1-11 have been fully considered but they are moot in

view of new grounds for rejection.

Claim Objections

5.   Claim 9 is objected to because of the following informalities: program

instructions adapted to automatically cause" should be change to "program instructions

automatically causing computer" in lines 3 of the claim. Appropriate correction is

required.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

7.   Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. It is unclear as to what the Applicant is seeking to claim by the

limitation stated. Specifically, it is unclear as to what the claim is seeking to encompass

using both "computer readable storage device" or "storage medium." Hence, if the latter

is chosen, it is unclear from the Specification what the storage medium encompasses.

Hence, for the purposes of compact prosecution, the limitation was interpreted to be a

storage medium, specifically transmission medium as the computer readable storage

device is distinctly used for computers.

8.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

9.   Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with

the written description requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in

the relevant art that the inventor(s), at the time the application was filed, had possession

of the claimed invention. The limitation in claim 9, specifically "storage device or

storage medium storing coded indicia" is not found in the Specification filed on

12/11/2003. The closest pertinent portion of the specification refers to a computer

terminal, see Applicant's Specification, page 4, lines 22-25.

Claim Rejections - 35 USC § 101

10.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claim 9 is rejected under 35 U.S.C 101 because the claimed invention is directed to

non-statutory subject matter.

        Claim 9 is drawn to a "storage medium" *per se* as recited in the preamble and as

such is non-statutory subject matter. On paragraph [0029] of the Applicant's of the

Specification, reference is made only to a "personal computer" with "main software

components" is being made to include software and characteristics associated with a

computer. However, it is unclear as to what the storage medium is seeking to

encompass if claimed with the computer readable storage medium. Hence, it was

interpreted to be the transmission of signals. It does not appear that a claim reciting a

signal encoded with functional descriptive material falls within any of the categories of

patentable subject matter set forth in § 101. First, a claimed signal is clearly not a

"process" under § 101 because it is not a series of steps. The other three § 101 classes

of machine, compositions of matter and manufactures "relate to structural entities and

can be grouped as 'product' claims in order to contrast them with process claims." 1 D.

Chisum, Patents § 1.02 (1994).

17.   Claim 11 is rejected as being dependent upon a rejected base claim, which does

not overcome the 101 rejection mentioned above.

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

12.   **Claims 1-4, 6-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over

VAN DEN AKKER (Patent No.: US 6,415,250) in view of DE CAMPOS (Patent No.: US

6,272,456).

13.   Regarding **claims 1, 8**, and **9**, VAN DEN AKKER teaches a device for

automatically identifying the language of a digital text ("automatic language identification

system", column 6, line 40), comprising:

means for prestoring (see col. 11, lines 3-7, memory 20, and 30 and see col. 6, line 56-61, where the storage and memory devices used in conjunction with the system) first character strings that occur frequently anywhere respectively in words of a plurality of predetermined languages and characterize said predetermined languages ("probability table 304 includes an entry for every selected word portion 303 that occurs in at least one of the language corpuses 309", column 10, lines 18-20);

means for prestoring second character strings that are atypical anywhere respectively in words of said predetermined languages ("probability table 304 includes an entry for every selected word portion 303 that occurs in at least one of the language corpuses 309", column 10, lines 18-20 and see col. 9, lines 1-16, where variety of corpora are used.);

means for analyzing words extracted from said digital text thereby constructing for each extracted word all character strings contained in said extracted word ("word portions extracted from the input text 301", column 10, lines 39-40) and having lengths lying between one character and the number of characters in said extracted word ("more or less characters may be included in the predetermined number of characters", column 9, lines 22-23);

means for comparing character strings contained in extracted words to prestored character strings in order to determine scores associated with said predetermined languages ("identification engine 306 searches the probability table 304 for each of the morphologically-significant word portions extracted from the input text 301, summing the

relative probability values associated with each language for each of the extracted word

portions", column 10, lines 37-42);

means for individually comparing each of all character strings contained in each

said extracted word individually to said first and second prestored character strings of

each determined language so that whenever a first character string is found in said

extracted word a score associated with said determined language is increased by a first

coefficient depending on the position of said first character string found in said extracted

word (see column 10, lines 37-42, and FIG. 6, the suffixes are used for scoring,

meaning the values are dependent on the position of the characters, since characters

from the suffix are used) and whenever a second character string is found in said

extracted word a respective second coefficient that is associated with said found second

character string (see FIG. 6, "probability table 304 is altered to include predetermined

negative values for those word portions which do not appear in a language corpus 309",

column 13, lines 62-64) (e.g. The reference shows the comparison of an extracted word

to multiple language corpus, which is seen in Figures 6 and 7. hence, corresponding

probabilities are increases or decreased based on probable occurrences of the string);

and

means for comparing said scores for said text associated with said

predetermined languages in order to determine the highest of said scores, which

identifies the language of said text ("the largest accumulated relative likelihood value,

provided it exceeds zero, identifies the language of the input text 301", column 10, lines

42-44).

However, VAN DEN AKKER does not disclose that whenever a second character string is found in said extracted word in said extracted word, said score is decreased by a respective second coefficient and said respective second character coefficient increasing as the probability of said found character string in said each determined language decreases.

In the same field of language identification, DE CAMPOS teaches whenever a second character string is found in said extracted word in said extracted word (see col. 3, lines 60-67, if the character string is found in many languages, therefore a second character string is analyzed), said score is decreased by a respective second coefficient (see col. 3, lines 65-66, score is decreased if found in many languages) and said respective second coefficient increasing as the probability of said found character string in said determined language decreases (see col. 3, lines 60-67, score is increased for infrequently appearing strings for the specific language is increased, but if it occurs in another languages score decreases. Thus, the increase in score only occurs if the match occurs in few languages, where the other languages do not contain such term and collectively the probability of such word in all languages decreases. Although a second coefficient is not used it would have been obvious to one skilled in the art to add two separate coefficients rather than increasing or decreasing for the objective of discriminating between infrequent sequences (i.e. score (language 1) =alpha – beta) (see DE CAMPOS, col. 4, lines 62-65)) (e.g. Further, the claimed limitation of the coefficient increasing is evident by the decrease for frequently occurring words in other

languages, which entails that a decreasing score lead to a lesser determination that the extracted word came from that language).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the coefficient modification of DE CAMPOS in the language identification system of VAN DEN AKKER in order to discriminate languages in identifying languages with infrequently appearing sequence (see DE CAMPOS, col. 3, lines 67-col. 4 lines 1-4 and lines 62-65).

As to claim 9, van den Akker teaches all of the limitations as in claims 1 and 8 above, and further teaches the computer readable storage device (see col. 6, lines 56-57) storing software in conjunction with a processor (see col. 6, lines 59 and lines 42).

14.   Regarding **claim 2**, VAN DEN AKKER in view of DE CAMPOS teach all of the limitations as in claim 1 above. VAN DEN AKKER further teaches that a first character string in an extracted word consists of one of the following character strings: a prefix, a pseudo-prefix, a suffix, a pseudo-suffix, an infix, a pseudo-infix ("word portions containing other types of morphemes or portions of morphemes", column 8, lines 66-67, where "affixes [prefixes, suffixes, infixes] are examples of bound morphemes", column 8, lines 9-10).

15.   Regarding **claim 3**, VAN DEN AKKER in view of DE CAMPOS teach all of the limitations as in claim 1 above. VAN DEN AKKER further teaches that said first coefficient of a first character string in said extracted word depends on the frequency of

said character string in said determined language ("frequency value indicative of the

number of times the selected word portion was found within the corresponding language

corpus 309", column 9, lines 36-38).

16.   Regarding **claim 4**, VAN DEN AKKER in view of DE CAMPOS teach all of the

limitations as in claim 1 above. DE CAMPOS further teaches that said first coefficient of

a first character string in said extracted word depends on the length of said character

string ("the language ID program module 36 is looking for the longest match to the test

letter sequence of letters appearing in the window", column 13, lines 54-56).

17.   Regarding **claim 6**, VAN DEN AKKER in view of DE CAMPOS teach all of the

limitations as in claim 1 above. VAN DEN AKKER further teaches comparator means for

comparing each of said extracted words from said text with frequent words in said

determined language and initially listed in storage means (see col. 11, lines 3-7,

memory 20, and 30 and see col. 6, line 56-61, where the storage and memory devices

used in conjunction with the system) so that whenever a frequent word is found in said

text said score for said determined language is increased only by a coefficient

depending on the frequency of said extracted word in said determined language

("identification engine 306 searches the probability table 304 for each of the

morphologically-significant word portions extracted from the input text 301, summing the

relative probability values associated with each language for each of the extracted word

portions", column 10, lines 37-42) (e.g. Depending on whether word portion is found the probability values are summed increasing the score).

Furthermore, DE CAMPOS teaches increasing the score for one of the languages when the longest match is found in a few languages.

18.   Regarding **claim 7**, VAN DEN AKKER in view of DE CAMPOS teach all of the limitations as in claim 1 above. VAN DEN AKKER further teaches the storage means. (see col. 11, lines 3-7, memory 20, and 30 and see col. 6, line 56-61, where the storage and memory devices used in conjunction with the system).

DE CAMPOS further teaches comparator means for comparing each of said extracted words from said text with frequent words in said determined language and initially listed in storage means so that whenever a frequent word is found in said text said score for said determined language is increased only by a coefficient depending on the length of said frequent word ("the language ID program module 36 is looking for the longest match to the test letter sequence of letters appearing in the window", column 13, lines 54-56 and col. 18, lines 26-31, based on length of a word the longer matches are increased in terms of score value).

Allowable Subject Matter

19.   Claims 5, 10, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

20.   The following is a statement of reasons for the indication of allowable subject

matter: DE CAMPOS teaches a score for each language based upon a frequency

parameter in the n-gram profiles corresponding to the length of the longest match. VAN

DEN AKKER teaches a probability value corresponds directly to the frequency FR.

However, none of the prior art references or in combination thereof teach the coefficient

of a first character string equal to PO(FR + LON), as recited in claim 5.

Conclusion

21.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to PARAS SHAH whose telephone number is (571)270-

1650. The examiner can normally be reached on MON.-THURS. 7:00a.m.-4:00p.m.

EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Patrick Edouard can be reached on (571)272-7603. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. S./
Examiner, Art Unit 2626

12/05/2008
/Patrick N. Edouard/
Supervisory Patent Examiner, Art Unit 2626